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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,825	04/12/2001	Kazunori Kaneda	Q64042	1925

7590 09/21/2005

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EXAMINER

FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/832,825

Applicant(s)

KANEDA, KAZUNORI

Examiner

Justin R. Fischer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori (JP 08027333, of record) and further in view of Fukumoto (JP 61060302, of record). Mori and Fukumoto are applied in the same manner as set forth in the Non-Final Rejection mailed on June 6, 2005 (Paragraph 5).

Mori (Abstract and Paragraphs 13-15) is directed to a pneumatic tire construction in which the innerliner or squeegee rubber composition layer is formed of an isoprene copolymer (100 phr), hydrotalcite (0.1-30 phr), and a crosslinking agent, such as sulfur (1-30 phr). Furthermore, while not expressly disclosed by Mori, it is well recognized that a carcass structure represents a fundamental tire component that is adjacent the innerliner layer. Additionally, it is well recognized that steel reinforcing elements represent one of the most well-known and extensively used materials in the manufacture of a carcass structure due to their high strength properties. Thus, the reference is only devoid of a teaching in regards to the inclusion of a cobalt salt of an organic acid. However, it is well-known to include a cobalt salt of an organic acid in a variety of elastomeric compositions, including an innerliner, in order to improve

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adhesion between the steel cords and the rubber that define the adjacent carcass structure, as well as provide improved tire durability, as shown for example by Fukumoto (Abstract). In this instance, Fukumoto suggests that the cobalt salt is included in an amount between 0.5-5 phr (fully encompasses claimed range of 0.1-0.3 in terms of cobalt atom). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to include said cobalt salt in the innerliner of Mori. It is emphasized that metal salts are recognized as conventional adhesive promoting additives that are extensively used in a wide variety of elastomeric compositions. As to the type of tire, one of ordinary skill in the art at the time of the invention would have found it obvious to use the innerliner of Mori in a wide variety of tires, including a bus tire, a truck tire, and an off-road tire, since the above noted benefits are desired in all tires. Lastly, Fukumoto expressly depicts the adjoining relationship between the innerliner and the carcass structure.

3. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori and Fukumoto as applied in claim 2 above and further in view of Kobayashi, Nosu, and the Admitted Prior Art (Page 5, Lines 13-15). The references are applied in the same manner as set forth in the Non-Final Rejection mailed on June 6, 2005 (Paragraph 6).

Regarding the hydrotalcite, Mori is silent as to the specific type of hydrotalcite. In any event, one of ordinary skill in the art at the time of the invention would have found it obvious to use hydrotalcite in which the crystal water has been removed since such a material is commonly used in a wide variety of industries. For example, Kobayashi (Column 13, Lines 5-10) and Nosu (Column 2, Line 42 – Column 3, Line 15) illustrate

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the extensive use of hydrotalcite in which the crystal water had been removed, it being particularly noted that Kobayashi is directed to the use of such a material in a rubber composition. Also, the Admitted Prior Art discloses that the claimed hydrotalcite was purchased from Kyowa Chemical Industry, Co., Ltd, further suggesting that hydrotalcite with crystal water removed was a well known material prior to the date of the claimed invention. As such, one of ordinary skill in the art at the time of the invention would have found it obvious to use hydrotalcite having no crystal water in the squeegee rubber composition of Hashimoto. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the use of such a hydrotalcite.

Response to Arguments

4. Applicant's arguments, see Page 6, filed September 6, 2005, with respect to the rejection of claims 2 and 16 with Fukumoto in view of Mori have been fully considered and are persuasive. The rejection of the above noted claims with Fukumoto in view of Mori has been withdrawn. In particular, it is agreed that Mori teaches the inclusion of hydrotalcite in a specific innerliner composition formed of halogenated rubber- one of ordinary skill in the art at the time of the invention would not have found it obvious to form the "adjoining" rubber composition of Fukumoto, which is formed of natural and/or synthetic isoprene rubber, with hydrotalcite.

Additionally, the rejection of claims 2 and 16 with Fukuhara has been withdrawn in light of the amendment that restricts the makeup of the squeegee rubber composition layer.

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However, as set forth above, the rejection of claims 2 and 16 with Mori in view of Fukumoto is maintained. Applicant contends that the respective rubber layers of Mori and Fukumoto are different and as such, one of ordinary skill in the art at the time of the invention would not have found it obvious to incorporate a cobalt salt of an organic acid in the innerliner composition of Mori. It is initially noted that the above noted metal salt represents a conventional and well-known "adhesion-promoting additive" that is extensively used in a wide variety of elastomeric compositions to improve adhesion- the particular use of such a well known additive is independent of the base rubber composition of the relevant layer. In this instance, Fukumoto provides one example of the inclusion of a metal salt in an innerliner composition adjacent the carcass in order to provide improved adhesion and tire durability. As additional evidence, applicant is pointed to Herbelleau (US 5,660,656- Column 6, Lines 15-30). In this instance, Herbelleau expressly teaches the inclusion of adhesion promoting additives, such as metal salts, in rubber layers adjacent the carcass and additional reinforced layers. Thus, it is clearly evident that metal salts, such as cobalt salts, represent a common additive, in the same light as carbon black, sulfur, silica, etc., that is used in a wide variety of tire elastomeric compositions. It is further noted that applicant has not provided a conclusive showing of unexpected results for the combination of hydrotalcite and a cobalt salt and as such, one of ordinary skill in the art at the time of the invention would have had ample motivation to include a well-known additive in the innerliner composition of Mori.

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As to Kobayashi and Nosu, it is emphasized that Mori discloses a rubber composition having hydrotalcite- Kobayashi and Nosu are applied to evidence the common forms of hydrotalcite. In combination with the Admitted Prior Art, it is clearly evident that hydrotalcite having the crystal water removed is a common form of hydrotalcite. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to use the claimed hydrotalcite in the tire of Mori.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

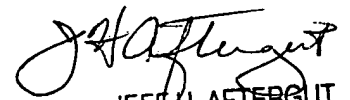
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Justin Fischer

September 15, 2005


JEFF H. AFTERGUT
PRIMARY EXAMINER
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